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PATENT APPLICATION

07-24-02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

WILLIAM MUTILANGI ET AL.

Application No.: 09/458,677

Filed: December 10, 1999

For: USE OF METAL SALTS TO IMPROVE THE TASTE OF LOW-CALORIE BEVERAGES SWEETENED WITH SUCRALOSE

Examiner: Arthur L. Corbin

Group Art Unit: 1761

Assistant Commissioner for Patents
Washington, D.C. 20231

DECLARATION UNDER 37 C.F.R. § 1.132
OF WILLIAM MUTILANGI

Sir:

WILLIAM MUTILANGI, declares and says that:

1. I have been employed by Pepsi Cola Company at its Valhalla, New York facility for the past twelve years. Most recently, I have occupied the position of Research Fellow for the past three years.

2. In 1989, I received a Ph.D. in Food Science from Pennsylvania State University.

3. I am familiar with the prosecution history of the present application. I have carefully reviewed the Examiner's position as set forth in the Office Action mailed on

January 17, 2002, wherein all claims were rejected over Stray-Gundersen, Schade, Jenner and the present specification.

4. In my opinion, the presently claimed combination of metal salts exhibits synergism when applied in a sucralose/acesulfame-K sweetened low-calorie beverage composition. My opinion is based upon experimentation that was conducted under my supervision and control. Over forty food-suitable metal salts were tested in an effort to find a combination of salts that would maximally positively impact the taste attributes of a low-calorie beverage sweetened with sucralose and acesulfame-K. Each of the salts tested was rated for overall sweetness intensity, aftertaste duration, cola flavor strength, mouthfeel and sucrose quality on the following scale:

much less			same			much more
-3	-2	-1	0	+1	+2	+3
|---|	|---|	|---|	|---|	|---|	|---|	|---|

5. Most of the salts tested were relatively ineffective in the tested sucralose/acesulfame-K sweetened beverage. None of the sodium, magnesium or zinc salts were particularly effective. However, good results were obtained with calcium phosphate, calcium sulfate and potassium sulfate as set forth below.

6. Calcium phosphate was tested over the range of 0 to 300 ppm in a low-calorie beverage sweetened with sucralose/acesulfame-K. Calcium phosphate was found to increase mouthfeel by about +1; however, this salt also decreased cola flavor strength by about -1.5 and negatively modified the cola flavor.

7. Calcium sulfate was tested over the range of 0 to 150 ppm in a low-calorie beverage sweetened with sucralose/acesulfame-K. Calcium sulfate was found to decrease aftertaste duration by about -0.5 or -1.

8. Potassium sulfate was tested over a range of 0 to 300 ppm in a low-calorie beverage sweetened with sucralose/acesulfame-K. Potassium sulfate was found to increase sweetness intensity by about +1.

9. When the presently claimed combination of calcium phosphate, calcium sulfate and potassium sulfate were tested in a low-calorie beverage sweetened with sucralose/acesulfame-K, synergistic results were obtained. More specifically, the overall sweetness intensity was increased by about +2, as compared to an increase of about +1 when using potassium sulfate alone; the aftertaste duration was decreased by about -2, as compared to a decrease of about -0.5 or -1 when using calcium sulfate alone; and the cola flavor strength was unaffected, and the mouthfeel was increased by about +1, as compared to the decrease in cola flavor strength by about -1.5 seen when using calcium phosphate alone.

10. In conclusion, it is my opinion that the presently claimed combination of calcium phosphate, calcium sulfate and potassium sulfate exhibit a synergistic effect on various taste attributes of a low-calorie beverage sweetened with sucralose/acesulfame-K, namely overall sweetness intensity, aftertaste duration and mouthfeel. None of the references cited in the outstanding final Office Action disclose or suggest such a synergistic combination of metal salts.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and

further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Subscribed this 15 day of July, 2002.

William Mutilangi

William Mutilangi

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